



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,131	02/20/2004	Joseph S. Stam	AUTO 211 USI	7106

28167 7590 06/17/2005

BRIAN J. REES  
GENTEX CORPORATION  
600 NORTH CENTENNIAL STREET  
ZEELAND, MI 49464

EXAMINER

ZANELLI, MICHAEL J

ART UNIT PAPER NUMBER

3661

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/783,131	Applicant(s) STAM ET AL.	
	Examiner Michael J. Zanelli	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33, 36-59, 63, 68 and 71-73 is/are rejected.
- 7) ☒ Claim(s) 34, 35, 60-62, 64-67, 69 and 70 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                             |                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                 | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/9/04</u> . | 6) <input type="checkbox"/> Other: _____                                                |

*R*

### DETAILED ACTION

1. The application filed 2/20/04 has been examined. Claims 1-73 are pending.
2. The IDS filed 8/9/04 has been considered.
3. The drawings are objected to because the blocks shown in Figs. 4, 7a, 7e, 8a, 9a-9i and 10 must contain descriptive legends.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The abstract of the disclosure is objected to because it fails to adequately describe the invention. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper content of an abstract of the disclosure.

Art Unit: 3661

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

6. Claims 42-57 are objected to because of the following informalities:

A. As per claim 42, at line 2 "An" should be --an--.

B. All claims depending from an objected base claim are also objected to as containing the same deficiencies.

7. Claims 1-27, 38, 39, 42-57 and 71-73 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. As per claims 1, 14 and 42, the claim preambles set forth "An automatic vehicle equipment control system" but lack sufficient structure within the body of the claims to perform such automatic control.

Art Unit: 3661

- B. As per claims 38, 39 and 43, "said at least one dual port memory" lacks antecedence.
  - C. As per claims 71 and 73, "said first spectrally filtered portion" and "said second spectrally filtered portion" lack antecedence.
  - D. As per claim 72, "said first and second spectrally filtered portions", "the first image" and "the second image" lack antecedence.
  - E. All claims depending from a rejected base claim are also rejected as containing the same deficiencies.
8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-15, 18, 19, 24-29, 36, 37, 40-45, 48, 49, 54-59 and 68 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimizu (6,515,271).

A. As per claims 1, 14, 28, 36, 40, 42 and 58, Shimizu discloses an image sensor unit (Figure 4) comprising an imager (101) with at least control outputs and low voltage differential signal (LVDS) transceiver (107) as well as a buffer memory (112). As shown in Figure 4, the components are at least interconnected by a wire. Shimizu further discloses that the components may be located on a common silicon wafer (column 6, lines 46-55). The LVDS permits high transmission rates with reduced electromagnetic

Art Unit: 3661

interference (column 6, line 56 to column 7, line 40). In addition, Shimizu discloses connecting the output of the imager to a processor via the LVDS transceiver (Figure 5).

B. As per claims 2-7, 15, 18, 19, 24, 25, 29, 37, 43-45, 48, 49, 54, 55, 59 and 68, as above wherein Shimizu discloses locating one or more components on a common silicon wafer and additional components such as an analog to digital converter and memory devices may be included (column 6, lines 6-17, 43-58).

C. As per claim 41, as above wherein Shimizu discloses providing a plurality of image sensors (column 9, lines 11-14).

10. Claims 28, 29 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by CONEXANT SYSTEMS, INC. (WO 99/55082).

A. As per claims 28, 29 and 40, Conexant discloses an imaging apparatus comprising an image sensor, differential output circuits and an analog to digital converter on a silicon chip (Abstract).

11. Claims 28 and 29 are further rejected under 35 U.S.C. 102(b) as being anticipated by Stam et al. (6,008, 486).

A. As per claims 28 and 29, Stam discloses an imager comprising an image sensor with at least control outputs and analog to digital converter on a common chip (Figure 1; column 3, lines 35-56).

12. Claims 14, 16-18, 20, 21 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Jackson, Jr. (6,806,485).

A. As per claims 14, Jackson discloses an automatic vehicle control equipment system which comprises an image sensor (col. 3, lines 18-23) and at least one control

Art Unit: 3661

output (col. 3, lines 37-40).

B. As per claims 16-18, 20, 21 and 23, as above wherein the image sensor is used to automatically control a vehicle's exterior lights (col. 2, lines 8-9) and further includes a processor (col. 3, lines 44-47).

13. Claims 28-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Sarwari (2003/0210334).

A. As per claims 28-31, Sarwari discloses an imager (Figs. 1A-B) comprising an image sensor (216) with at least one control output and processing circuitry on a common substrate (200) [0023]. The imager may also include filtering and an array of pixels configured as required by design [0032].

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 3661

15. Claims 16, 17, 20-23, 31-33, 38, 39, 46, 47, 50-53 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu in view of Schofield et al. (5,796,094).

A. Shimizu is applied as above. The claimed invention differs in that the imaging system is explicitly used in a vehicle control system. Shimizu suggests that the disclosed imaging system may be used in a variety of applications which process image data (col. 12, lines 10-12). Schofield discloses a vehicle control system which uses image data to control a vehicle's headlight (Abstract; Figure 3) or other systems (column 11, 58-64). One of ordinary skill in the art would have found it obvious to utilize the imaging system of Shimizu in a variety of applications in which image data is processed and used to control a device, such as vehicle control systems of the type described by Schofield. Schofield additionally discloses other devices/inputs used specifically in vehicle headlight control such as ambient light sensor (Figure 3:84) and inputs such as vehicle steering and speed. With regards to the size of the image array and memory capacities, these parameters would have been dependent upon the particular devices used in constructing the imaging system.

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited documents are of general interest.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Zanelli whose telephone number is (571) 272-6969.

The examiner can normally be reached on Monday-Thursday 8:30 AM - 3:00 PM.




Art Unit: 3661

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/mjz

  
MICHAEL J. ZANELLI  
PRIMARY EXAMINER